G1 cont.

a plurality of windings;

at least one microelectronic mechanical system (MEMS) relay positioned in the motor to activate in the presence of a magnetic field, where each relay includes:

a first substrate formed from a nonconductive or semiconductive material;

a magnetic actuation plate micro-machined on said first substrate, said magnetic actuation plate having a first conductive surface, said magnetic actuation plate comprising one or more anchors in direct contact with the first substrate, where said magnetic actuation plate and said one or more anchors are formed of permalloy material; and

a second substrate provided adjacent to said magnetic actuation plate, said second substrate having a nonconductive surface and a second conductive surface,

where said first and second conductive surfaces define at least two switching states, including an open state in which the conductive surfaces are physically separated from each other, and a closed state in which the conductive surfaces physically contact each other,

where said magnetic actuation plate, in the presence of a magnetic field, creates an actuation force that causes the

G1 cont.

electrically conductive surfaces to switch from one of the switching states to another of the switching states, and

where each relay is connected electrically to at least one corresponding winding and to power; and

a magnetic rotor having at least one pole positioned to induce a magnetic field in each MEMS relay when passing by the relay.

2. The motor of claim 1, wherein the windings are arranged in pairs of primary and secondary windings and each relay connects to a corresponding one of the pairs of windings.

3. The motor of claim 2, wherein the secondary windings all connect to a common node and each of the primary windings connects to the corresponding relay.

4. The motor of claim 1, wherein the motor is a four-pole, three-phase motor.

5. The motor of claim 4, wherein the motor includes three relays separated from each other by approximately 120□.

SUB H1

6. (Twice Amended) A DC motor comprising:

a plurality of windings;

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at least one microelectronic mechanical system (MEMS) relay connected electrically to at least one of the windings and to power, where each relay includes:

at least one substrate formed from a nonconductive or semiconductive material;

a springing beam etched on the substrate, said springing beam comprising one or more anchors in direct contact with said substrate, where said springing beam and said one or more anchors are formed of permalloy material; and

two electrically conductive elements, one formed on the springing beam, that together define at least two switching states, including an open state in which the conductive elements are physically separated from each other, and a closed state in which the conductive elements physically contact each other;

where the springing beam includes a magnetic material which, in the presence of a magnetic field, creates an actuation force that causes the electrically conductive elements to apply power to or remove power from at least one of the windings by switching from one of the switching states to another of the switching states; and

a magnetic rotor having at least one pole positioned to induce a magnetic field in each MEMS relay when passing by the relay.